IN THE CLAIMS:

Please amend the claims to read as follows:

-- 1. (currently amended) A reactor apparatus including a support element adapted to be rotatable about an axis, the support element having a surface with a periphery and feed means associated therewith for supplying at least one reactant to the surface such that, upon rotation of the surface, the reactant flows freely, by way of centrifugal force generated by rotation of the surface, across the surface as a thin film and is thrown from the periphery thereof, characterised in that the surface is provided with at least one layer of a mesh which enhances its effective surface contact area in relation to the reactant and which increases a residence time of the reactant on the surface when the reactor apparatus is in use.

2. (currently amended) A reactor apparatus including a support element adapted to be rotatable about an axis, the support element having a surface with a periphery and feed means associated therewith for supplying at least one reactant to the surface such that, upon rotation of the surface, the reactant flows freely, by way of centrifugal force generated by rotation of the surface, across the surface as a thin film and is thrown from the periphery thereof, characterised in that the surface is provided with pins or wires which enhance its effective surface contact area in relation to the reactant and which increase a residence time of the reactant on the surface when the reactor apparatus is in use.

3. (currently amended) A reactor apparatus including a support element adapted to be rotatable about an axis, the support element having a surface with a periphery and feed means associated therewith for supplying at least one reactant to the surface such that, upon rotation of the surface, the reactant flows freely, by way of centrifugal force generated by rotation of the surface, across the surface as a thin film and is thrown from the periphery thereof, characterised in that the surface is provided with at least one layer of a reticulate foam which enhances its effective surface contact area in relation to the reactant and which increases a residence time of the reactant on the surface when the reactor apparatus is in use.

4. (currently amended) A reactor apparatus as claimed in claim 1, wherein the surface is provided with two or more layers of a mesh.

5. (currently amended) A reactor apparatus as claimed in claim 1, wherein the layer or layers of mesh are such that there is good thermal conduction between the mesh and the surface.

6. (currently amended) A reactor apparatus as claimed in claim 1, wherein the mesh is made of metal.

7. (currently amended) A reactor apparatus as claimed in claim 1, wherein the mesh has a thickness of the same order of magnitude as a thickness of a film of reactant which is formed on the surface when the reactor is in operation.

8. (currently amended) A reactor apparatus as claimed in claim 1, wherein the mesh is made out of or coated with a catalytic material.

9. (currently amended) A reactor apparatus as claimed in claim 1, wherein the surface is porous.

10. (currently amended) A reactor apparatus as claimed in claim 1, wherein the surface is provided with a catalytic material.

11. (currently amended) A reactor apparatus as claimed in claim 10, wherein a plate of catalytic material is clamped, welded or otherwise adhered to the surface.

12. (currently amended) A reactor apparatus as claimed in claim 1, wherein the surface is treated by ion bombardment or implantation so as to produce changes in surface wettability.

13. (currently amended) A reactor apparatus as claimed in claim 1, wherein the axis is substantially parallel to a direction of action of terrestrial gravity.

14. (currently amended) A reactor apparatus as claimed claim 1, wherein the axis is inclined with respect to a direction of action of terrestrial gravity.

15. (currently amended) A reactor apparatus as claimed claim 1, wherein the axis is substantially perpendicular to a direction of action of terrestrial gravity.

16. (currently amended) ~~A reactor as claimed in claim 1,~~ A reactor apparatus including a support element adapted to be rotatable about an axis, the support element having a surface and feed means associated therewith for supplying at least one reactant to the surface, characterised in that the surface is provided with at least one layer of a mesh which enhances its effective surface contact area in relation to the reactant and which increases a residence time of the

reactant on the surface when the reactor apparatus is in use, and wherein there is further provided a rotary impeller or fan mounted close to the surface and operable to generate a gaseous flow from a periphery of the surface towards a central region thereof, this flow being counter-current to a flow of reactant on the surface.

~~agent.~~

17. (new) A reactor apparatus including a support element adapted to be rotatable about an axis, the support element having a surface and feed means associated therewith for supplying at least one reactant to the surface, characterised in that the surface is provided with pins or wires which enhance its effective surface contact area in relation to the reactant and which increase a residence time of the reactant on the surface when the reactor apparatus is in use, and wherein there is further provided a rotary impeller or fan mounted close to the surface and operable to generate a gaseous flow from a periphery of the surface towards a central region thereof, this flow being counter-current to a flow of reactant on the surface.

18. (new) A reactor apparatus including a support element adapted to be rotatable about an axis, the support element having a surface and feed means associated therewith for supplying at least one reactant to the surface, characterised in that the surface is provided with at least one layer of a reticulate foam which enhances its effective surface contact area in relation to the reactant and which increases a residence time of the reactant on the surface when the reactor apparatus is in use, and wherein there is further provided a rotary impeller or fan mounted close to the surface and operable to generate a gaseous flow from a periphery of the surface towards a central region thereof, this flow being counter-current to a flow of reactant on the surface.